DOCUMENT RESUME

ED 037 995 EM 006 139

AUTHOR	Comstock, George; Maccoby, Nathan
TITLE	Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior. The Peace Corps Educational Television (ETV) Project in Colombia: Two Years of Research.
INSTITUTION	Stanford Univ., Calif. Inst. for Communication Research.
SPONS AGENCY	Peace Corps (Dept. of State), Washington, D.C.
REPORT NO	RR-7
PUB DATE	Nov 66
NOTE	68p.; One of a series of 12 Peace Corps documents. See also: ED017185, ED020663, ED020664, ED020665, ED020666, ED020667, ED020668, ED020669
EDRS PRICE	EDRS Price MF-$0.50 HC-$3.50
DESCRIPTORS	*Changing Attitudes, Developing Nations, *Educational Television, Elementary Education, *Teacher Behavior, *Teaching Methods
IDENTIFIERS	Colombia, Peace Corps

ABSTRACT

For a report on a two-year Peace Corps project designed to implement educational television (ETV) in Colombia, the persuasive and defense arousal effects of several kinds of appeals that might be used to persuade Colombian teachers to adopt new teaching practices were investigated. Subjects, who were 100 Colombian public primary school teachers involved in the ETV project, were randomly assigned to four groups and presented with one of four different booklets, each describing and advocating a "new" teaching method. Each booklet had a different combination of various persuasive appeals (derived from the components of persuasive arguments) to produce four experimental conditions: "efficacy" and "great departure", "efficacy" and "small departure", "professional" and "great departure", and "professional" and "small departure". Data derived from measurements of the persuasive and defense arousal effects of the various appeals were subjected to analysis of variance. Some support was found for a hypothesis that the "professional" appeal would be persuasively superior to the "efficacy" appeal, and strong support was found for a hypothesis that the "small departure" appeal would arouse less defensiveness than the "great departure" appeal. (SP)

ED037995

THE PEACE CORPS EDUCATIONAL TELEVISION (ETV) PROJECT IN COLOMBIA -- TWO YEARS OF RESEARCH

Research Report No. 7:

Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior

By George Comstock and Nathan Maccoby

EM 001 139

a report of the

INSTITUTE FOR COMMUNICATION RESEARCH
STANFORD UNIVERSITY

ED037995

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

THE PEACE CORPS EDUCATIONAL TELEVISION (ETV) PROJECT IN COLOMBIA -- TWO YEARS OF RESEARCH

Research Report No. 7:

Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior

By George Comstock and Nathan Maccoby

Institute for Communication Research
Stanford University
November, 1966

EM 006 139

This research was conducted under Peace Corps Contract No. W-276, entitled, "To Provide Continuous Information on the Effectiveness of the Peace Corps Educational Television (ETV) Project in Colombia." This is one of 12 volumes in a series, The Peace Corps Educational Television Project in Colombia--Two Years of Research. Titles of the other volumes and some brief facts on the ETV Project and on the research can be found at the end of this report.

Contents

	Page
Introduction	1
Background of the Research	1
Theory and Conceptualization	6
Design	9
Experimental Procedure	13
The Results	14
The Before Questionnaire	14
The After Questionnaire	16
The Analysis	17
Hypotheses	19
Persuasive Effects of the "motivating" Component Appeals	20
Defense Arousal Effects of the "Motivating" Component Appeals	21
Persuasive Effects of the "Relating-Descriptive" Component Appeals	24
Defense Arousal Effects of the "Relating-Descriptive" Component Appeals	26
More on Defense Arousal	29
Summary	35
Discussion	37
Footnotes	44
Appendices	46
A: Contents of the Booklets, in Spanish and English	46
B: Questionnaire Items, in Spanish and English	56
Reports in This Series	at end
Brief Facts: The ETV Project, and the Research	at end

ERIC
Clearinghouse on
Educational Media and Technology
Institute for Communication Research
Stanford University
Stanford, California 94305

The overcoming of teacher resistance to change has been one of the major challenges facing the Peace Corps Educational Television (ETV) Project in Colombia, for the project's success depends to a great extent on the classroom teacher's willing and active cooperation. As a result, we included this problem in our research. We looked upon it as one of persuasive strategy and tactics. Through an experiment, which we describe in this report, we tried to explore these issues: What kind of persuasive appeal or argument is most likely to win teacher cooperation? What dangers or risks exist in the appeals which, because of their apparent promise, are commonly used? What psychological defenses are apt to be aroused by the commonly used appeals?

Background of the Research: Before dealing with the experiment itself, which took place in the late summer of 1965, we would like to try to place it in context so that why we did just what we did will be clearer. First, we will discuss briefly why overcoming teacher resistance to change seemed to be an important problem. Second, we will outline the criteria we set for the design of the experiment which were intended to make it as pertinent and useful as possible to the ETV Project.

Since the initiation of the ETV Project at the beginning of 1964, the utilization Volunteers, who work closely with classroom teachers on the effective use in the schools of the televised instruction, have found that persuasion is a big part of their job.[1] The reason is simple:

the introduction of television into the Colombian primary school demands much from the classroom teacher that is a departure from normal practice. As we have reported elsewhere, the teachers generally had a strong belief in the instructional power of television. This apparently was true even before they had any experience with it, and there is no evidence that such experience diminished this faith.[2] However, such a belief only provides a foundation of favorable attitude upon which changes in actual behavior might be built. It does not in itself offer any guarantee that such changes, however assiduously sought, will occur.[3]

In the ETV Project, public primary schools were equipped with TV sets, and courses were televised for pupils in all of the first five grades. The project required the teachers to change their behavior in two broad ways -- as a group, in the way they were organized to teach, and as individuals, in their own teaching.

The use of television often required the complete re-ordering of the way school was conducted. Special facilities had to be set up for viewing. Often, the school had to call on community officials for adequate wiring, electrical service, and sufficient seating. Class schedules had to be re-arranged to fit the television schedule. For the first time, classes had to change from room to room so that the right class could be in front of the TV set at the right time. Teaching itself had to follow a new schedule, and that schedule had to be followed rigidly to keep pace with the televised lessons. This re-ordering of the school might be called the necessary or basic condition for the exposure of the pupils to the televised instruction. It demanded the full and willing cooperation of the teachers in each school.

However, the televising of instruction demanded even more of the teachers individually. Unlike many educational projects involving television, the Peace Corps project in Colombia did not merely provide complementary material by television, but instead delivered the "core" of instruction for each course. During 1964, 10 different courses were televised for the five primary grades, with each course consisting of two 15 minute telecasts weekly. During 1965, 15 courses, with each again consisting of two 15 minute telecasts weekly, were televised. For each of these 15 minute telecasts, the classroom teacher was expected to provide 30 minutes of complementary instruction, 15 minutes before, as "motivation", and 15 minutes afterward, as "follow-up." The teachers, then were expected to build their teaching around the television. They learned the content of the telecasts, and found suggestions for "motivation" and "follow-up," in Teacher Guides, which were published in advance of the telecasts.

To get a better picture, let us consider what was asked of one teacher. Let us say that her name is Amalia Rodriguez, and that she taught fifth grade during 1965. There were three courses televised for the fifth grade in 1965, and as a typical teacher, she would have taught with all of them. For her pupils, this meant six 15 minute telecasts each week. For Miss Rodriguez, this meant preparing in advance six 15 minute "motivations" and six 15 minute "follow-ups" -- a total of 180 minutes each week. As a typical teacher, preparing instruction in advance was a completely new procedure. So, too, of course, was building instruction around an already-prepared "core." It should hardly be surprising, then, that although Miss Rodriguez, as a typical teacher,

believed strongly that television could be very effective in providing instruction, she was not always ready with a "motivation" and "follow-up" for every telecast.

Merely getting teachers to plan and provide instruction keyed to the telecasts often involved considerable persuasion. However, the goals of the Peace Corps project were more ambitious. It also has attempted to use television as a lever to change the techniques and methods used by Colombian teachers. In practice, this has meant de-emphasizing rote memorization and group recitation, and substituting techniques which presumably encourage independent thinking, creativity, and the learning of broad, general ideas.

For Miss Rodriguez, this involves a revolutionary departure from what she considers good teaching to be like. As a typical teacher, she thinks of memorization and learning as one, and discipline and compliance, not thinking, as the goal of primary education. This was the way she was taught, and it seems natural to teach others in the same way. As a typical teacher, she has never attended a university, and her general education and professional training has not equipped her to accept new or different ideas about teaching readily. To do other than she has always done, even when teaching with television, often seems to her like the antithesis of good teaching. When she does provide a "motivation" and "follow-up" keyed to a telecast, she prefers to use the techniques and methods she has always used.

Thus, the teachers have been asked to change their teaching in three different ways -- to plan in advance, to build their teaching around the televised "core," and to break away from rote memorization as

a goal. Since the project began, the utilization Volunteers had difficulties in obtaining what they considered as satisfactory compliance from teachers in a number of areas. Often, re-organizing the school's schedule to fit the ETV schedule, and obtaining a satisfactory room for viewing, required diligent effort and considerable persuasion. Even these basic and necessary conditions for pupil exposure to the televised instruction did not come easily. However, the most frequent frustrations came from efforts to change actual teaching behavior. And even when teachers began providing "motivations" and "follow-ups", they often disregarded suggestions about how these might be done differently. From the reports of utilization Volunteers, two patterns of teacher resistance to suggestions seemed particularly common. In one, the teacher would agree with the Volunteer about how something might be taught, but would do nothing about putting the suggestion into practice. That is, there was apparent acquiescence but without action. In the other, the teacher would also agree with the Volunteer about the desirability of teaching something in a particular way, but would claim that he was already teaching that way. That is, there was a denial of the need for change. Sometimes, of course, the Volunteer's Spanish may have been inadequate for the task, and the teacher simply may not have understood. However, it also seemed to us that the teachers were understandably resistant to change.

Because of the importance to the ETV Project of changing teacher behavior, we decided to study the problem of teacher resistance more closely under controlled conditions. We decided to conduct an experiment in which we could compare the effects of different persuasive

appeals. In order to maximize the utility to the project of our findings, we set these criteria in designing the experiment:

a) The subjects would be Colombian primary school teachers.

b) The persuasive appeals would aim at a change in teaching practices.

c) The different persuasive appeals would be made upon the basis of broad, general principles, so that the results could be applied in a variety of situations simply by casting whatever new appeals seemed appropriate in the same mold.

d) The different persuasive appeals would be either in the mold of those already in common use, or in a mold which could be used with equal ease.

Thus, we tried to shape the experiment to the practical needs of the ETV Project without sacrificing the potential generality of the findings.

Theory and Conceptualization: Most arguments or persuasive appeals intended to promote a change in practices involve at least two components:

a) an appeal intended to motivate the person who is the target to take an interest in the advocated practice; and,

b) a description or characterization of the advocated practice which relates it in some way to present practices.

Thus, if the purpose of a persuasive appeal was to change eating habits, the argument might be that the advocated food would improve health, and that it tastes much the same as the food presently eaten. The former could be called a "motivating" component, because it aims at creating interest in the new food, and the latter could be called a "relating-descriptive" component, because it ties the new food to

the old. These were the two concepts -- "motivating" components and "relating-descriptive" components -- which we used in developing the appeals we compared in our experiment. They seemed to correspond to appeals already in common use, and thus provided a good framework for working out different appeals.

In the appeals used to promote changes in teaching behavior in the ETV Project, a commonly used "motivating" component was this: If the teacher would adopt the advocated practice, his teaching would become more effective. Thus, the advocated practice was often presented as a means toward increased job effectiveness. For the purposes of our research, we decided to call such arguments "efficacy" appeals. A commonly used "relating-descriptive" component was this: The advocated practice is very new, and involves a marked or great departure from present practices. Thus, the advocated practice was often presented as somewhat revolutionary in character. For the purposes of our research, we decided to call such arguments "great departure" appeals.

Both of these commonly used appeals seemed to us to involve a threat to the teacher's self-esteem, because they imply that present practices are inadequate. To accept them requires the acknowledgement that what one has been doing all along has been unsatisfactory. The greater such a threat, the greater the likelihood that such appeals would arouse psychological or attitudinal defenses which would interfere with successful persuasion. Among these, of course, would be the often observed reactions of teachers to suggested new ways -- acquiescence without action, and denial of a need for change by claiming present compliance.

Although it was in no way necessary as an assumption for our research, it also seemed to us that the Colombian public school teacher might be peculiarly sensitive to such threatening appeals. From all reports, Colombian teachers feel that their status in society is low. If so, then we suspected that they might be unusually sensitive about their efficacy -- their teaching ability -- since they would have very little else to justify their daily activity. The ability to accept criticism, direct or implied, requires some degree of security and confidence in the importance of one's status. This, it seemed likely, might be lacking for Colombian teachers. Certainly the facts of public school teaching in Colombia support these speculations: teachers are lowly paid (the equivalent of about $45-$60 U.S. a month); they often are not paid at all for months at a time; they can look forward to little if any mobility to better positions; their pupils are unlikely even to complete primary school, much less go on to a secondary school or university; they get little or no support from parents, who are often semi-literate.

It should be noted that Janis and Janis and Field have suggested and have some evidence that low self-esteem is associated with high persuasibility.[4] However, we suspect that people who have very low self-esteem in regard to their social roles cannot <u>publicly</u> accept a communication which implies that they are somehow failures. Only people with a relatively high degree of self confidence about their work can accept criticism and change, and this only if the change advocated does not completely discredit their previous work. Thus, we would suggest that one condition under which there is not a positive relationship between low self-esteem and high persuasibility is when the argument further lowers self-esteem.

As a consequence of this thinking, we decided to match against the commonly used appeals some appeals which would involve less threat. In regard to the "motivating" component, we decided to use this appeal: If the teacher would give the advocated practice a try, he would be acting like a true "professional." This, we felt, would involve less threat, because it did not direct attention so blatantly to the teacher's teaching effectiveness, or "efficacy." It also has the added advantage of associating compliance with a higher status -- that of a professional person. For the purposes of our research, we decided to call such arguments "professional" appeals. In regard to the "relating-descriptive" component, we decided to use this appeal: The advocated practice, although new, involves only a small departure from present practices. This, we felt, also would involve less threat, for if an advocated practice involves only a small departure from present practices, then the inadequacy implied about present practices is less. In addition, this appeal is likely to raise less of a question in the mind of a teacher about his ability to perform in the new way. For the purposes of our research, we decided to call such arguments "small departure" appeals.

Design: On the basis of this formulation, two "motivating" and two "relating-descriptive" components were prepared. Since each complete appeal or argument consists of both a "motivating" and a "relating-descriptive" component, this resulted in four different complete arguments (2 x 2 = 4). For the "motivating" component, there was an "efficacy" and a "professional" appeal. For the "relating-descriptive" component, there was a "great departure" and a "small departure" appeal. Thus, since there were four different complete arguments, there were four different conditions in the experiment.

The new practice which the teachers were asked to adopt was a procedure for class instruction which we arbitrarily called the "Socratic Method," simply because it involved a question and answer exchange between teacher and pupils. The appeals were presented in a booklet entitled, "An Introduction to the Socratic Method." Since there were four different complete presentations, there were four different booklets, one for each of the experimental conditions. Each booklet contained:

a) A brief introductory paragraph, which was the same for all four experimental conditions.

b) A paragraph containing a "motivating" component, which varied, consisting either of an "efficacy" or a "professional" appeal.

c) A paragraph containing a "relating-descriptive" component, which varied, containing either a "great departure" or a "small departure" appeal.

d) A lengthy example of how a teacher using the advocated "Socratic Method" might actually teach, which was the same for all four experimental conditions.

This example was purposely ambiguous, in that it could be taken either as similar or dissimilar to present practices. Thus, the booklets were identical except for their "motivating" and "relating-descriptive" components, whose effects we wished to measure. The contents of the booklets, in English and Spanish, can be found in Appendix A.

The four experimental conditions involved the following four combinations of "motivating" and "relating-descriptive" components:

"Motivating"		"Relating-Descriptive"
Efficacy	&	Great Departure
Efficacy	&	Small Departure
Professional	&	Great Departure
Professional	&	Small Departure

For all four experimental conditions, the questionnaires were the same. One, administered before the persuasive message was read, sought information on the teachers' perception of their status -- whether they felt they received sufficient public recognition and financial reward. The other, administered after the persuasive message was read, sought their reactions to the "Socratic Method" as it had been described. The items, in English and Spanish, can be found in Appendix B.

The after questionnaire contained four questions intended to reflect opinions and attitudes toward which a persuasive argument presumably should dispose a person. These four questions, which we included to measure the persuasive effectiveness of the appeals, were as follows:

If it were necessary to choose now, without further information, how much time would you (the teacher) be willing to spend to learn more about the "Socratic Method"?

How interested are you (the teacher) in receiving more information about the "Socratic Method"?

If it were necessary to choose now, without further information, how long a period would you (the teacher) be willing to devote to trying out the "Socratic Method" in your own teaching?

How effective would you (the teacher) say that the "Socratic Method" would be, compared to present practices?

The after questionnaire also contained two questions intended to measure the defensiveness aroused among the teachers by the appeals. These questions were as follows:

How many other teachers would you (the teacher) estimate now use the "Socratic Method," although they may have a different name for it?

How similar would you (the teacher) say your own teaching is to the "Socratic Method," although you may have a different name for it?

We should add a comment on these two questions intended to reflect defensiveness. They parallel what had frequently been reported by utilization Volunteers as a common "dodge" employed by teachers when a suggestion was made -- that the suggestion already was in use. As a result, of course, no change on the part of the teacher could be expected. Were an appeal to arouse such a reaction, it would have erected a serious barrier to obtaining compliance. Partly, we chose these items because this kind of defense seemed to be common. Partly, too, we did so because teaching is particularly susceptible to this kind of misinterpretation, since the teacher's role is essentially that of leader of the class no matter what variations of teaching method may be in use.

Each question was asked twice, once as a question followed by several alternatives, and once as a question followed by a seven-point scale whose ends only were labelled. As a result, we had a check on the consistency of the replies to any one question.

The subjects were 100 teachers at Concentracion Kennedy, a large complex of schools in Bogota, Colombia's capital. They were randomly assigned to the four experimental conditions. Thus, there were approximately 25 in each condition.[5] The distribution of the subjects into

the four conditions, each represented by a cell, can be illustrated as follows:

		Relating-Descriptive Component: Great Departure	Small Departure	
Motivating Component:	Professional	N* = 26	N = 23	= 49
	Efficacy	N = 25	N = 26	= 51
		= 51	= 49	

*N = Number of teachers in each condition

Thus, to summarize, there were four experimental conditions, each with about 25 subjects. Each condition received a booklet advocating the use of the "Socratic Method" which differed in the combination of "motivating" and "relating-descriptive" components. The four combinations were: a) "efficacy" and "great departure"; b) "efficacy" and "small departure"; c) "professional" and "great departure"; and, d) "professional" and "small departure."

Experimental Procedure: The subjects were told that they were to be asked to give their impressions of a special kind of teaching technique after reading only the introductory passages to a fuller description of it. They were told that they were to be asked to read only these introductory passages, because what we were studying was the impression made by this small part of the full presentation. Of course, they were not told that other groups would receive introductory passages with a different content.

After this explanation, the before quesionnaire was distributed and completed. Then, the booklet on the "Socratic Method" was distributed and read. Finally, the after questionnaire was distributed and completed. All material was collected as soon as the subjects were through with it, for two reasons. First, to deter references to the booklet itself, rather than their own impressions, in answering the final questionnaire. Second, to more closely approximate the usual circumstance of educational persuasion in the ETV Project, in which the teacher may form a first impression from the communication he receives, but usually has no chance to check it again against the exact statements made. In order to insure careful reading of the booklet, the subjects were asked to read it carefully twice. Ample time was allowed for the completion of all steps. For each group, the procedure took about 45 minutes.[6]

The Results

The Before Questionnaire: The purpose of this questionnaire was to obtain some information on how the teachers felt about their status in Colombia. We will present the results for two questions. In one, the subjects were asked whether they believed teachers received financial rewards equal to the service they rendered. In the other, the subjects were asked whether they believed teachers received recognition outside of financial reward equal to the service they rendered. The results appear in Table 7:1. As can be seen, about half (49.5 per cent) said that financial reward was "far below" what it should be, and almost half (44.5 per cent) said that financial reward was "somewhat below"what it should be, for a total of 94 per cent which said that financial reward failed to be equal to the service given. As can also be seen, almost six out

Table 7:1: Teacher Perceptions of Pay and Non-Financial Reward Relative to Service Rendered

Evaluation	"Considering the service Colombian public school teachers perform, how do you evaluate the financial reward they receive?" Per cent	"Considering the service Colombian public school teachers perform, how do you evaluate the recognition - other than financial - they receive?" Per cent
Far below what it should be	49.5	58.2
Somewhat below what it should be	44.5	24.5
Just what it should be	6.1	16.3
Somewhat better than it should be	0	0
Much better than it should be	0	0
	*N = 99	*N = 98

*N = Number of teachers responding to item, on which per cents are based.

of 10 (58.2 per cent) said that recognition outside of financial reward was "far below" what it should be, and another one out of four (24.5 per cent) said that it was "somewhat below" what it should be, for a total of 82.7 per cent which said that recognition was below what their service merited. Thus, a large majority of the teachers said that pay and recognition were below what Colombian teachers deserve.

We consider these two questions to reflect the teachers' perception of their status, or how they rate in the eyes of Colombian society. For this group, a large majority felt that teachers did not rate as highly as they should. This is certainly consistent with our speculation that Colombian teachers feel their status to be low. We cannot say much more, for the sample was small and non-random, there is no absolute criteria for what kind of replies should be taken as reflecting a perception of high or adequate status for the group as a whole, and we do not have comparable data from teachers in other countries.

The After Questionnaire: It is, of course, of the results of the questionnaire administered to each of the experimental groups, each of which received a different complete argument or appeal advocating the "Socratic Method," in which we are principally interested. We will present these in several brief sections. In the first, we will discuss the kind of analysis we used in examining the results. In the second, we will present the hypotheses we formulated in advance for the results, based on the thinking outlined previously (see the section on Theory and Conceptualization). Then, we will look at the persuasive and defense arousal effects of the two different kinds of "motivating" components, "efficacy" and "professional," and the persuasive and defense arousal

effects of the two different kinds of "relating-descriptive" components, "great departure" and "small departure." Finally, we will present a summary of the results, and we will discuss and speculate on their import for successfully persuading the Colombian teacher to adopt new ways of teaching.

The Analysis: Quantitative scores were assigned to the responses to each question. These scores were subjected to a two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition.[7] This permits a test of the statistical significance of the differences in post-argument responses attributable to the principal variables. In this case, this would be the differences between those receiving "efficacy" and those receiving "professional" appeals as "motivating" components, and between those receiving "great departure" and those receiving "small departure" appeals as "relating-descriptive" components. For any one component, the results for either of the appeals combines the scores for the two kinds of appeals of the remaining component. Thus, for the "motivating" component, the results for the "efficacy" appeal combines the scores of those receiving "great departure" and "small departure" appeals for the "relating-descriptive" component. The schema for the analysis of the replies to each question might be illustrated this way:

Relating-Descriptive Component:

Motivating Component:	Great Departure	Small Departure	
Efficacy	a	b	= a + b (Efficacy)
Professional	c	d	= c + d (Professional)
	= a + c ("Great Departure")	= b + d ("Small Departure")	

Thus, in comparing the effects of the "efficacy" and " professional" appeals, we read across, combining for each the scores of those receiving the two kinds of "relating-descriptive" components, and in comparing the effects of the "great departure" and "small departure" appeals, we read down, combining for each the scores of those receiving the two kinds of "motivating" components.

For any one comparison, this treats the effects of the two appeals of the component not being considered as if they cancel out. Obviously, this might not always be a tenable assumption. It would be quite conceivable for the appeals of a component to have different effects, depending on which of the appeals of the other component they happened to be paired with. Technically, this is known as "interaction." This may be thought of as variance in the results not attributable either to chance or to the effects of the main variables taken separately

("efficacy" vs. "professional," and "great departure" vs. "small departure") -- that is, as variance attributable to the way the main variables interact, or act upon each other. Fortunately, the present analysis permits a test of the statistical significance which helps estimate the extent of such "interaction," and thus protects us from overlooking the possible joint effects of the two different appeals.

A complete presentation of all of the data would require a separate table, following the illustration above, for each question. However, since only one form of one item led to a statistically significant "interaction" that requires examination of the results for all four conditions together, we have presented all the other results in simplified tables showing only the outcomes for the principal appeals. These might be called the "main effects." The full four cell table is used only for the form of the item for which the significant "interaction" occurred. As to statistical tests, the p.'s, which are for the F-ratios of the analysis of variance, constitute two-tailed tests. Since the trend in one set of results was contrary to our hypotheses, we did not convert any of the p.'s to a one-tailed basis. If the reader wishes to do so when the trend favors our hypotheses, he may (a one-tailed p. would be half that of a two-tailed p.). When the p. is equal or less than .10, it is shown as such; when it is greater, it is merely stated that the difference being evaluated is not significant ("n.s.").

Hypotheses: The following hypotheses were advanced as to the effects of the various appeals:

1) For the "motivating" component, the "professional" appeal would be persuasively superior to the "efficacy" appeal.

2) For the "motivating" component, the "professional" appeal would arouse less defensiveness than the "efficacy" appeal.

3) For the "relating-descriptive" component, the "small departure" appeal would be persuasively superior to the "great departure" appeal.

4) For the "relating-descriptive" component, the "small departure" appeal would arouse less defensiveness than the "great departure" appeal.

These hypotheses were based primarily on what we considered to be the less threatening character of the "professional" and "small departure" appeals, although each also may have had other advantages, as discussed previously (see section on Theory and Conceptualization).

Persuasive Effects of the "Motivating" Component Appeals: In regard to the persuasive effectiveness of the "efficacy" vs. the "professional" appeals, the data appear in Table 7:2. It will be recalled that we used four items to measure persuasive effects, each representing a behavior or attitude toward which we would expect a persuasive communication to dispose a person. For each, the higher the mean score, the greater the degree to which the group was disposed toward the desired behavior or attitude.

As can be seen, the "professional" appeal seemed to be superior in regard to the amount of time the teachers were willing to devote to learning more about the new method of teaching. For one form of the item (the seven-point scale form), the "professional" mean was significantly higher ($p. < .01$), and for the other form (the alternative choice form), it bordered on being significantly higher ($p. < .10 > .05$), and would have met the criterion ($p. = \text{or} < .05$) had a one-tailed test been applied. The mean scores for the other items cannot be said to differ

significantly. However, it should be noted that for the four alternative choice items, the mean for those receiving the "professional" appeal was greater although not statistically significantly so for all four, and for the four seven-point scale items, the mean of those receiving the "professional" appeal was superior for three. In the table, the higher mean in each case is underlined. Thus, the mean for those receiving the "professional" appeal was higher in seven out of eight instances.

In regard to the persuasive effectiveness of the two kinds of "motivating" components, we would interpret these results as indicating a decided advantage for the "professional" over the "efficacy" appeal. Although it may not have made much difference in the teachers' desire for more information about the new method, the period of time they might be willing to devote to trying it out, or their evaluation of its instructional effectiveness, it was clearly superior in disposing them toward wanting to learn more about it. Under any circumstances, this would be an important and extremely desirable effect for a persuasive argument aimed at encouraging teachers to use a new teaching method. Given the sketchy nature of the actual information about the new method (the so-called "Socratic Method") contained in our messages, and that the messages were described as only the "introductory" passages to a fuller description, perhaps this is the only one of these items on which any significant differences might reasonably be expected.

Defense Arousal Effects of the "Motivating" Component Appeals: In regard to the defense arousal effects of the "efficacy" vs. the "professional" appeals, the data appear in Table 7:3. It will be

Table 7:2: Persuasive Effects of the "Efficacy" vs. "Professional" Appeals

	Alternative Choice Form of Item						Seven-Point Scale Form of Item					
	Appeal:						Appeal:					
	"Efficacy"		"Professional"				"Efficacy"		"Professional"			
Item:	Mean	N**	Mean	N**	Score Range	F-ratio & p.***	Mean	N**	Mean	N**	Score Range	F-ratio & p. ***
Spend time learning more about advocated practice*	3.540	50	4.279****	49	1-9	F = 3.431 p. < .10 > .05	3.494	48	4.592	47	1-7	F = 7.707 p. < .01
Desire for more information on advocated practice*	2.800	50	2.953	48	1-4	F = 1.160 p. = n.s.	5.837	48	5.784	47	1-7	F = .037 p. = n.s.
Devote period to trying out advocated practice*	4.427	49	4.725	49	1-8	F = .440 p. = n.s.	3.470	48	4.119	47	1-7	F = 2.087 p. = n.s.
Effectiveness of advocated practice*	3.840	50	3.870	49	1-5	F = .018 p.= n.s.	5.258	48	5.477	47	1-7	F = .647 p.= n.s.

* The "Socratic Method."

**N = Number of subjects responding to item on which mean is based.

***Two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition. The p. for the F-ratio constitutes a two-tailed test.

**** For each pair, the higher of the two means is underlined. The higher the mean, the more positive was the reply of the subjects to the item.

Table 7:3: Defense Arousal Effects of the "Efficacy" vs. "Professional" Appeals

	Alternative Choice Form of Item Appeal:						Seven-point Scale Items Appeal:					
	"Efficacy"		"Professional"				"Efficacy"		"Professional"			
Item:	Mean	N**	Mean	N**	Score Range	F-ratio & p.***	Mean	N**	Mean	N**	Score Range	F-ratio & p.***
Claimed similarity of advocated method* to present methods used by other teachers	5.845	49	6.438 ****	49	1-9	F = 1.318 p.= n.s.	-	-	-	-	-	-*
Claimed similarity of advocated method* to subject's own teaching	2.321	49	2.361	49	1-3	F = .210 p.= n.s.	5.638	48	5.571	47	1-7	F = .051 p.= n.s.

* The "Socratic Method."
** N = Number of subjects responding to item on which mean is based.
*** Two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition. The p. for the F-ratio constitutes a two-tailed test.
**** For each pair, the higher of the two means is underlined. The higher the mean, the greater the claimed similarity, or defensiveness aroused.

recalled that we used two items to measure defense arousal effects, one asking for an estimate of how many Colombian teachers now used the advocated teaching technique, and the other asking for an estimate of how similar the advocated teaching technique was to the subject's own teaching. For each, the higher the mean score, the greater the degree of similarity claimed, either between the techniques of Colombian teachers in general and the advocated technique, or between the subject's own teaching and the advocated technique.

We would consider a greater degree of perceived similarity between present techniques and the advocated method as evidence of greater defensiveness, for it would represent an increased denial of the need for change on the grounds that no change is necessary. As can be seen, the "efficacy" and "professional" appeals did not differ significantly in the amount of defensiveness aroused. It will also be noted that the results for the seven-point scale form of one of the items could not be analyzed because of a printing error in the questionnaire.[8]

Persuasive Effects of the "Relating-Descriptive" Component Appeals: In regard to the persuasive effectiveness of the "great departure" vs. the "small departure" appeals, the data appear in Table 7:4. The four items are the same as for the analysis of the persuasive effectiveness of the "motivating" appeals, and as before, the higher the mean score, the greater the degree to which the group was disposed toward the desired behavior or attitude.

As can be seen, none of the differences between the means were significant in the expected or hypothesized direction of the "small departure" appeal being persuasively superior to the "great departure"

Table 7:4: Persuasive Effects of "Great Departure" vs. "Small Departure" Appeals

	Alternative Choice Form of Item Appeal:						Seven-Point Scale Form of Item Appeal:					
	"Great Departure"		"Small Departure"				"Great Departure		"Small Departure"			
Item:	Mean	N**	Mean	N**	Score Range	F-ratio & p.***	Mean	N**	Mean	N**	Score Range	F-ratio & p.***
Spend time learning more about advocated practice*	3.932****	51	3.887	48	1-9	F = .013 p. = n.s.	3.980	50	4.106	45	1-7	F = .101 p. = n.s.
Desire for more information on advocated practice*	3.000	50	2.753	48	1-4	F = 3.022 p. = < .10 >.05	6.040	50	5.581	45	1-7	F = 2.671 p. = n.s.
Devote period to trying out advocated practice*	4.702	51	4.449	47	1-8	F = 3.172 p. = < .10 > .05	3.800	50	3.790	45	1-7	F = .001 p. = n.s.
Effectiveness of advocated practice*	4.020	51	3.690	48	1-5	F = 2.225 p. = n.s.	5.500	50	5.206	45	1-7	F = .827 p. = n.s.

*The "Socratic Method."
**N = Number of subjects responding to item on which mean is based.
*** Two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition. The p. for the F-ratio constitutes a two-tailed test.
****For each pair, the higher of the two means is underlined. The higher the mean, the more positive was the reply of the subjects to the item.

appeal. Moreover, two of the differences might be said to approach significance in the opposite direction, although neither achieved the .05 criterion, and the general trend favored the "great departure" over the "small departure" appeal (for the four alternative choice forms, the "great departure" mean was higher for all four, and for the four seven-point scale forms, the "great departure" mean was higher for three, so that in seven out of eight instances the "great departure" mean was higher).

On the surface, and without other data, this would hint that the "great departure" appeal might be persuasively superior to the "small departure" appeal. However, we caution against such an interpretation. The differences are far from overwhelmingly strong, and evaluated on the basis of a two-tailed test, none reach an acceptable level ($p. = or < .05$). In addition, the differences only approach statistical significance for both forms of an item in one case, in regard to the subject's desire for more information on the advocated technique. The item for which differences were significant in the hypothesized direction for the "motivating" component, on the willingness of the subjects to devote time to learning more about the advocated technique, led to not even the slightest indication of significant differences. We will speculate later on the possible meaning of these results. For the moment, we would ask that judgments on the relative effectiveness of a "great departure" vs. a "small departure" appeal be withheld until the data on defense arousal, to which we now turn, are perused.

Defense Arousal Effects of the "Relating Descriptive" Component Appeals: The data on the defense arousal effects of the "great departure" vs. the "small departure" appeals appear in Table 7:5. As before,

Table 7:5: Defense Arousal Effects of "Great Departure" vs. "Small Departure" Appeals

	Alternative Choice Form of Item						Seven-Point Scale Form of Item					
	Appeal:						Appeal:					
	"Great Departure"		"Small Departure"				"Great Departure"		"Small Departure"			
Item:	Mean	N**	Mean	N**	Score Range	F-ratio & p.***	Mean	N***	Mean	N**	Score Range	F-ratio & p.***
Claimed similarity of advocated method* to present methods used by other teachers	6.528 ****	51	5.755	47	1-9	F = 2.235 p. = n.s.	-	-	-	-	-	- *
Claimed similarity of advocated method* to subject's own teaching	2.531	51	2.151	47	1-3	F = 18.538 p. < .001	6.140	50	5.069	45	1-7	F = 12.961 p. < .001

*The "Socratic Method."

**N = Number of subjects responding to item on which mean is based.

***Two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition. The p. for the F-ratio constitutes a two-tailed test.

****For each pair, the higher of the two means is underlined. The higher the mean, the greater the claimed similarity, or defensiveness aroused.

there are two items, and the higher the mean score, the greater the degree of similarity claimed between present techniques and the advocated practice -- or, in our terms, the greater the degree of defensiveness aroused.

Here, we encounter a truly noteworthy effect. In regard to the claimed similarity of the advocated technique to their own teaching, those receiving the "great departure" appeal were far more inclined than those receiving the "small departure" appeal to claim that their own teaching was similar to the advocated technique. This is in accord with our hypothesis that the "great departure" appeal would arouse greater defensiveness, but it is exactly opposite to what a casual observer might expect.[9] Surely, such an observer might reason, persons told that a new practice represents a "small departure" would be more inclined to see it as similar to present ways than those told that it represents a "great departure." Yet, the opposite occurred.

Apparently, the "great departure" appeal promoted the claim that the advocated technique was similar to what the subject was already doing in his teaching. Put simply, it would appear that if a teacher is told that a new way involves a "great departure" or a revolutionary or marked change from the way he is presently teaching, he is more likely to reply, "Why, I'm doing it that way already!" than if he had been told the new way involves only a "small departure" or slight change. Such claims, of course, erect a considerable barrier against obtaining cooperation or compliance from a teacher. From the teacher's viewpoint, such a belief means that no change is necessary. It should be noted, incidentally, that the differences were significant for both

forms of the item on perceived similarity between the advocated technique and the subject's own teaching. It should also be noted that the difference in regard to the perceived similarity of the advocated technique and the practices of Colombian teachers in general approached an acceptable level of significance, with those receiving the "great departure" appeal again being more inclined to see the advocated technique as similar.

We would interpret this as indicating that the "great departure" appeal aroused considerably greater defensiveness than did the "small departure" appeal. We find it particularly interesting that it seemed to do so with such great force in regard to the teacher's own teaching. This suggests to us that representing desired new practices as radically different entails great risk, and may well backfire by creating resistance, in the form of a denial of the need for change, among teachers.

More on Defense Arousal: It is in regard to the claimed similarity of the advocated practice to the subject's own teaching that the sole possibly noteworthy interaction occurs. This section, then,may be taken as a footnote to the preceding ones dealing with the defense arousal effects of the various appeals.

The complete data for this item are shown in Table 7:6. Here, we can see the means for each of the experimental conditions, as well as the overall means for the various appeals to which we have so far devoted all of our attention.

At the far right are the overall means for the "motivating" component, or "efficacy" vs. "professional" appeals. These are the means which were previously examined in Table 7:3, in looking at the

defense arousal effects of these two appeals. At the bottom are the overall means for the "relating-descriptive" component, or "great departure" vs. "small departure" appeals. These are the means which were previously examined in Table 7:5, in looking at the defense arousal effects of these two appeals.

In each of the four cells is a mean for one of the experimental conditions, and it is the scores of subjects in these conditions which are combined for the overall means at the far right and bottom. For example: the mean of 2.600 in the upper left cell is for those receiving, in the "motivating" component, the "efficacy" appeal, and in the "relating-descriptive" component, the "great departure" appeal; in the upper right cell, the mean of 2.042 is for those receiving the same "efficacy" appeal coupled with the "small departure" appeal; the scores for subjects in these two conditions are combined for the overall "efficacy" mean of 2.321. Thus, the overall means at the far right and at the bottom represent the scores of subjects who had one appeal in common, but differed in regard to the other appeal.

In looking at interaction, we look at whether the four means in the cells varied more among themselves than can be accounted for either by chance or by variance attributable to the variables (the "motivating" and "relating-descriptive" components) acting separately ("efficacy" vs. "professional," and "great departure" vs. "small departure"). If so, then the appeals of one variable (or component) had different effects, depending on which of the appeals of the other variable (or component) they were paired with. This is the case for the defense arousal item whose data appear in Table 7:6.

Table 7:6: Complete Data for All Four Experimental Conditions on One Defense Arousal Item (Claim by subject of similarity of advocated practice, the "Socratic Method," to own teaching, alternative choice form)

Relating-Descriptive Component:

Motivating Component: / Appeal:	"Great Departure"	"Small Departure"	
"Efficacy"	2.600*	2.042	2.321
**(N)=	(25)	(24)	(49)
"Professional"	2.462	2.261	2.361
**(N)=	(26)	(23)	(49)
	2.531	2.151	
	(51)	(47)	

***F-ratio for interaction: 4.117
p = < .05
> .01

* The higher the mean, the greater the claimed similarity, or defensiveness aroused.

** N = Number of subjects responding to item on which means in each cell (for each experimental condition) and row and column means (for main effects) are based.

*** Two-way analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition.

The results for each of the forms (alternative choice and seven-point scale) of the four items measuring persuasive effectiveness and of the two items measuring defense arousal could have been presented in this kind of four cell table. However, as noted earlier, we did not do so because the interaction was statistically significant only for this one form of this one item -- the alternative choice form of the item on similarity between the subjects own teaching and the advocated teaching practice. Thus, there was nothing to be gained in these other instances from this more complicated presentation of the data.

Now, let us look at the actual results for this defense arousal item, as shown in Table 7:6. It can be seen that the cell means do not present a pattern consistent with the marginal means at the far right and bottom, which reflect the effects of the main variables acting separately. Reading across, first for the "efficacy" means and then for the "professional" means, we note that both the "efficacy" and "professional" means for those receiving the "great departure" appeal are considerably higher than for those receiving the "small departure" appeal. Moreover, we note that the difference is particularly great for those receiving the "efficacy" appeal. The "efficacy" and "great departure" mean is 2.600, and the "efficacy" and "small departure" mean is 2.042, a difference of .558. The "professional" and "great departure" mean is 2.462, and the "professional" and "small departure" mean is 2.261, a difference of only .201. The former difference is more than twice that of the latter. Reading down, first for the "great departure" means and then for the "small departure" means, we note that the order of magnitude is reversed. For those receiving the "great departure"

appeal, the "efficacy" mean is higher than the "professional" mean. For those receiving the "small departure" appeal, the "professional" mean is higher than the "efficacy" mean. As before, of course, the higher the mean, the greater the degree of defensiveness aroused.

We will interpret these results with considerable caution, for the interaction was significant only for the alternative choice form of this item. It will be recalled that the mean effect for the "relating-descriptive" component in regard to defense arousal was highly significant for both forms (with the "great departure" appeal leading to greater defensiveness), and we would have much greater confidence in the meaningfulness of these results had the interaction also been significant for both forms. In fairness, we should note that for the other defense arousal items the pattern of the means was identical to that for this significant interaction. This was true both for the other (seven-point scale) form of the item on claimed similarity between the subject's own teaching and the advocated technique, and for the one form (alternative choice) of the item on claimed similarity between the teaching of Colombian teachers in general and the advocated technique (results for the seven-point scale form of this item were not analyzable because of a printing error in the questionnaire). However, the pattern for neither of these items led to anything even approaching a significant interaction. Thus, this one significant interaction stands alone.

The results for this item certainly do not require any major qualification of our main finding that the "great departure" appeal resulted in greater defensiveness. The "great departure" means are higher, whether

this appeal was coupled with the "efficacy" or "professional" appeals. Reading across, the greater difference between the "departure" means for those receiving the "efficacy" appeal might be taken as indicating that the defensiveness aroused by the "great departure" appeal was even more pronounced when the teacher's job effectiveness was made salient by the "efficacy" appeal. At least for this form of the item, the "departure" means for those receiving the "efficacy" appeal contributed a great deal more than did these means for those receiving the "professional" appeal to the main finding that the "great departure" appeal led to greater defensiveness. This is consistent with the view that an "efficacy" appeal may lead to greater defensiveness, although we found no evidence for this in our examination of the main effects of the appeals (see Table 7:3). If this interpretation is accepted, then it does lead to a qualification of our main finding that the "efficacy" appeal did not lead to greater defensiveness. Reading down, we find the reversal in magnitude of the means more puzzling. Given our reasoning so far, we would expect the "efficacy" means to be higher than the "professional" means, as is the case for those receiving the "great departure" appeal, but why should the "professional" mean be higher than the "efficacy" mean for those receiving the "small departure" appeal? We will not hazard a guess. We think it is more noteworthy that the "great departure" appeal apparently reversed the order, leading to greater defensiveness for the "efficacy" appeal. Looking at the four cells together, we also think it noteworthy that the combination of the "efficacy" and "great departure" appeals apparently produced the greatest degree of defensiveness of any of the four combinations. It will be recalled that this was the most commonly used set of appeals in trying to persuade teachers to adopt new practices.

Summary: In this experiment, we studied the persuasive and defense arousal effects of several kinds of appeals that might be used to persuade Colombian teachers to adopt new teaching practices. We included this issue in our research because gaining compliance from teachers had proved to be a considerable problem for the Volunteers during the first year and a half of the Peace Corps ETV Project in Colombia, and because the problem of overcoming resistance to change is a general one for Peace Corps and other agencies concerned with development abroad. We fitted the experiment as carefully as we could to the needs and conditions of the ETV Project. Although we drew considerable inspiration and guidance from the extensive literature of the psychology of persuasion, we based our conceptualization and theory on what we had observed of the persuasive techniques used in the ETV Project. It was our goal to maximize the utility of the findings for the ETV Project, without sacrificing their generality.

We used Colombian public primary school teachers, with which the ETV Project is mostly concerned, as subjects. The persuasive appeals we used concerned a change in teaching methods, were broadly enough conceived to permit a variety of appeals to be fitted to their mold as specific circumstances might dictate, and either followed models already commonly used or which could be substituted for them. We conceived of persuasive arguments as having at least two major components -- a "motivating" component, intended to arouse interest, and a "relating-descriptive" component, which descriptively related the advocated practice to present ways. In the ETV Project, we found that a commonly used "motivating" component was an appeal to "efficacy" or greater job

effectiveness, and that a commonly used "relating-descriptive" component was the characterization of the advocated new way as a "great departure," or radically different from present ways. Since teachers seemed to often deny the need for change by claiming that their present ways in fact corresponded to what was advocated, we thought that these appeals might arouse defensiveness, and thus be self-defeating. We developed two different appeals, one for each of the components. For the "motivating" component, we developed a "professional" appeal, and for the "relating-descriptive" component, a "small departure" appeal.

Since there were two components for each argument, and two versions of each component, this led to four different possible combinations (2 x 2 = 4). To present these to teachers, we prepared four different booklets, each describing and advocating a "new" teaching method arbitrarily called the "Socratic Method." Each of the four booklets had in common an introductory paragraph, and a lengthy and, as to "newness," ambiguous example of a teacher using the new method. Each of the four had a different combination of the various appeals: "efficacy" and "great departure," "efficacy" and "small departure," "professional" and "great departure," and "professional" and "small departure." Thus, there were four experimental conditions.

Subjects were 100 teachers at Concentracion Kennedy, a large complex of schools in Bogota, randomly divided into the four conditions. The experiment was conducted in the late summer of 1965.

We measured the persuasive and defense arousal effects of the various appeals. We hypothesized that the "professional" and "small departure" appeals would be persuasively superior and would arouse less defensiveness, on the grounds that they contained less threat. The data were subjected

to an analysis of variance, Walker-Lev fixed constants model for unequal number of subjects in each condition. In examining the main effects, the hypothesis that the "professional" appeal would be persuasively superior to the"efficacy" appeal received some confirmation; the hypothesis that the "small departure" appeal would be persuasively superior to the "great departure" appeal received no confirmation; the hypothesis that the "professional" appeal would arouse less defensiveness than the "efficacy" appeal received no confirmation; and the hypothesis that the "small departure" appeal would arouse less defensiveness than the "great departure" appeal received strong confirmation. In examining interactions possibly obscured in looking only at the main effects, there was some evidence supporting the hypothesis that the "efficacy" appeal resulted in greater defensiveness than the "professional" appeal. In all, we found the results informative and meaningful.

Discussion: In closing, we would like to speculate on the meaning of these results, and on the problem of overcoming resistance to change in general. Since our experiment concerned Colombian teachers, and overcoming resistance to new teaching methods, we will look at the results in this context. However, we think that the findings have some import for any situation in which the goal is a change in present practices.

Overall, the picture is one in which the danger of inspiring defensive maneuvers when a change in familiar, daily teaching practices is advocated is great. The picture suggests that careful consideration must be given to the potential threat to the teacher's self-esteem of any kind of argument, appeal, or strategy. The results illustrate and dramatize the possible dangers in the more obvious and commonly used

arguments to promote change. These dangers seem particularly great when the argument is made that a new way represents a "great departure" or revolutionary change from the usual, familiar practice. It does not matter whether or not the advocated practice actually represents a revolutionary change. What matters is if it is perceived as such, this may well lead to a self-defeating defensiveness. The kind of argument which may impress sophisticated and better-educated persons at relatively high levels, and other role-secure persons, may backfire when used on the ordinary person -- in this case, the Colombian classroom teacher -- who is asked to put it into practice.

There is some reason to think that this problem is particularly severe with the Colombian public school teacher. It appears likely that he considers himself to be lowly regarded and inadequately recognized and rewarded by his society for the services he performs. Probably, he feels that he does a very good job at teaching. He certainly has little else to sustain him in his work. He is probably inclined to blame any deficiencies on the poor health and impoverished home life of his pupils, and on the lack of books, maps, audio-visual aids, and other teaching materials, rather than on his own teaching. And these are certainly very real problems. His feelings of deprivation over status would promote belief in his efficacy, for in this situation he would have little other than his job effectiveness by which to justify himself. It should not be surprising that he tends to cling tenaciously to his old ways when asked to make a change. Any argument demanding change is potentially threatening, because it implies that his present work is inadequate and that perhaps he is not adequately equipped to do

his job properly. The greater he perceives the demanded change to be, the more he is apt to feel threatened, and the more defensive he is likely to be. Similarly, the more attention an argument calls to his teaching and its effectiveness, the more likely is it that such defensiveness will be aroused. For these reasons, we are somewhat wary of persuasive arguments involving what might be characterized as "efficacy" or "great departure" appeals, and are especially so in regard to the Colombian teacher and other people who might have reason to feel insecure about their capabilities in their work.

In these speculations, we have suggested that the Colombian teacher is unusually prone to react defensively to attempts to change his teaching practices. However, we should also emphasize that <u>anyone</u> is likely to be somewhat defensive when his way of doing things is challenged. Thus, our interpretation of the findings of our research does not depend on the accuracy of these speculations about the Colombian teacher. Our interpretation would be the same even if the Colombian teacher were not more susceptible to defensiveness than anyone else. However, these speculations are intended to suggest that problems of threat and defensiveness have a special pertinence in persuading the Colombian teacher.

Now, let us look again at the results of this experiment. We found some evidence that, for the "motivating" component, the "professional" appeal was persuasively superior to the "efficacy" appeal. Those receiving the "professional" appeal were ready to devote more time to learning more about the advocated teaching practice. Since arousing sufficient interest for just this kind of practical commitment is just

what we would hope of an effort to motivate, this seems to us to indicate an important advance over the effectiveness of the commonly used appeal based on "efficacy."

We hypothesized that the "professional" appeal would be superior because it contained less threat, although we recognized that it also contained an implication of a rise in status, for Colombian teachers are seldom thought of or referred to as professionals. After examining all the results, we are less sure but far from entirely dissuaded of this view. In looking at the main effects of the appeals, we did not find that the "professional" appeal aroused less defensiveness than the "efficacy" appeal. This would suggest that the "professional" appeal's persuasive superiority might well be attributable to its implication of higher status, or upward mobility. However, in looking at the significant interaction for one form of one of the defense arousal items, we found some evidence that the "efficacy" appeal did lead to greater defensiveness. This would suggest that it did contain a greater threat, or that it at least set the stage, by making teaching effectiveness salient, for other aspects of the argument (in this case, the "great departure" appeal) to arouse greater defensiveness. Without further research, we cannot separate unequivocally the impact of the elements contained in the "professional" appeal. In practical terms, however, it does seem clear to us that arguments not based on "efficacy" are likely to be more effective, and that arguments containing some compliment or implication of higher status are likely to be particularly effective.

We did not find, for the "relating-descriptive" component, that the "small departure" appeal was persuasively superior to the "great departure" appeal. In fact, contrary to our hypothesis, there was some en

indication that the "great departure" appeal was superior. Since the differences favoring the "great departure" appeal only bordered on an acceptable level of significance, we would be justified in not attempting any interpretation at all. However, we will do so because we do not want to overlook even the slightest hint of useful information in the results. In addition, if anyone is inclined to interpret the results as indicating that the "great departure" appeal was persuasively superior, we would like to offer our view as to why, in this particular case, it might have been so.

We think that the results on the persuasive effectiveness of the "great departure" appeal can be most profitably examined in the light of our finding that this appeal also aroused much more defensiveness than the "small departure" appeal. This defensive reaction, it will be recalled, involved a greater tendency for the subject to claim that the advocated teaching practice was similar to his own way of teaching. We are inclined to think that this greater defensiveness itself disposed subjects in the "great departure" condition toward making replies indicating a favorable attitude toward the advocated practice. If a teacher claims that a new practice is very much like his own way of teaching, is it not reasonable for him also to show some sign of considering the new practice as worthwhile? Thus, in inducing defensiveness, we may have pushed the teachers toward replies, which on the surface, would seem more favorable.

We offer this only as a speculation. However, we think that a close look at the content of the items supports this view. The "professional" appeal was superior in regard to the amount of time the teacher

was willing to devote to learning more about the advocated practice. There was no evidence that the "great departure" appeal was superior on this count. The only results which might be taken as indicating persuasive superiority for this appeal concerned the interest of the teachers in more information on the advocated practice, and the length of time for which they might be willing to give it a try. If the subjects were reacting on the basis of a defensive belief that the advocated practice was similar to their own teaching, we would hardly expect them to be interested in spending time to learn about the practice, for they would think themselves already familiar with it. On the other hand, they might well want more information on it, to confirm their impression that it really is similar. And they might well be ready to give it a longer try, simply because they would not see it as involving anything new for them. We must warn, however, that these are only speculations.

In regard to defense arousal, the consequence of the "great departure" appeal is quite clear. It led to the erection of a barrier by the teacher to making any change. In practical terms, it seems clear to us that arguments following this model, whatever the specifics, are apt to be less successful than those in which the degree of change demanded is cast in less bold relief.

We think there is a clue in our findings to one of the paradoxes of the ETV Project -- that television arouses great surface enthusiasm among Colombian teachers, yet they are not always ready to change their ways to make what is argued to be better use of it. When teachers are

asked to adopt what is described as a markedly new way of teaching, they defensively dismiss the new way as already in use. Having done so, they give it ready and eager lip service, because they have seized on the idea that it is what they are already doing. The sum is a very strange, although not inexplicable, brotherhood of enthusiasm and apathy whose father is fear -- fear of change, and what it implies about the value of their way of doing things. It is in this context that the enthusiasm for television as a device can be partially understood: as a technological device, itself asking and implying nothing other than modernization, it can be embraced without any personal acknowledgement of inferiority. It is in this context that the frequent difficulties of obtaining changes in daily teaching practices also can be partially understood: as kinds of individual behavior long engaged in, such changes do involve such an acknowledgement. Thus, it is not uncommon to find a teacher enthusiastic about television who will not readily do anything differently in teaching with it other than switching on the TV set.

In closing, we would note that our research suggests that the most obvious approach to winning teacher cooperation may not always be the best, and that verbal enthusiasm, although gratifying to the persuader, may often be accompanied by the erection of defenses which end in his defeat. We would also note that, while our research dealt with Colombian teachers and changes in teaching practices, the dynamics of defensiveness and the kinds of appeals with which we were concerned probably also apply to any situation in which people are asked to change long-established practices. We believe, too, that the further development and study of special persuasive approaches for this kind of situation would be well worthwhile.

Footnotes

[1]For more on the impact and work of the utilization Volunteer, see Reports No. 2, 4 and 5 (*), this series.

[2]For more on the televised curriculum for pupils, and the attitudes of teachers toward it, see Report No. 8 (*), this series.

[3]In a discussion of the sparsity of evidence of opinion change leading to behavior change, Festinger points out that, although it is likely that existing attitudes and behavior are often related in a common sense way, there is no evidence that such relationships are necessarily strong or inevitable. In regard to changes in attitude produced by persuasive arguments leading to behavior changes, he reports that there have been few studies focussing on this issue, not much evidence of such behavior changes, and that this evidence does not suggest a simple relationship between attitude change and new behavior. He suggests that persuasive arguments fail to produce either lasting opinion changes or new behavior because the conditions which led to the initial or original opinion and behavior remain unchanged. (Leon Festinger, "Behavioral Support for Opinion Change," Public Opinion Quarterly, XXVIII (Fall, 1964), pp. 407-417.) This bears directly on the problem of changing the behavior of Colombian teachers to fit the demands of ETV. In this case, the existing favorable attitude toward ETV is "free floating" in that it is related to no particular kind of relevant behavior, since televised instruction is new to the teachers. The obtaining of appropriate new behavior depends upon the success of persuasive arguments. Thus, although the teachers' favorable disposition toward ETV is gratifying, and undebatably preferable to a negative attitude, it promises nothing in itself. Of course, the introduction of ETV alters the teachers' environment considerably, and this should make the changing of related opinions and behavior somewhat easier, by changing some of the conditions which would support inappropriate attitudes and behaviors. In turn, this suggests that a teacher's initial period with ETV may be particularly critical for winning changes in behavior, before undesirable attitudes and behavior become firmly rooted in the changed environment.

[4]Irving Janis et al., Personality and Persuasibility. (New Haven: Yale University Press, 1959), pp. 29-68 and passim.

[5]The teachers who served as subjects were released from their classes for one hour for the experiment through the cooperation of the Colombian school supervisor whose zone included the Concentracion Kennedy schools.

(*) Titles are listed in Reports In This Series, at the end of this volume.

Footnotes, continued

[6]The experimental sessions were conducted by Pilar Santamaria, Director of Evaluation for Educational Television for the Institute de Radio y Television, the quasi-government agency directly responsible for Colombian participation in ETV. She worked with us as our Colombian research "counterpart." She was assisted by Peter Gyfteas, a former Volunteer, and Amalia Saenz, both research employes.

[7]Walker, Helen M., and Lev, Joseph. Statistical Inference. New York, 1953: Holt, Rinehart and Winston. pp. 381-382.

[8]In the printing of the questionnaire, both ends of the seven-point scale were erroneously given the same label.

[9]It is also opposite to what Sherif and Hovland's "assimilation-contrast" model of attitude change would seem to lead one to expect. (Muzafer Sherif and Carl I. Hovland, Social Judgment. New Haven: Yale University Press, 1961.) In this model, the acceptance or rejection of a persuasive communication depends on whether it is perceived as relatively close to the subject's initial position, thus leading to "assimilation" and increasing the likelihood of acceptance, or as relatively distant, thus leading to "contrast" and increasing the likelihood of rejection. Ordinarily, one would expect the "small change" description to lead to a perception of greater similarity with the subject's current practices than the "great change" description, simply because that is consistent with the literal meaning of the communications. If this had occurred, we would predict from the "assimilation-contrast" model that the "small change" description would be persuasively superior to the "big change" description. However, our data suggest that the actual perception was contrary to the literal meaning of the communications. If so, then the "big change" description increased the likelihood of "assimilation" and its favorable consequences for acceptance. Thus, by taking account of our data on the perceptual effects of the communications, it is possible to predict from the "assimilation-contrast" model that the "big change" description would be persuasively superior -- which is consistent with the trend of the data comparing the persuasive effects of these variables.

Appendix A: Contents of the Booklets, in Spanish and English

The contents of the booklets, entitled "An Introduction to the Socratic Method," are presented in the following order:

1) The introductory paragraph common to all four experimental conditions.

2) The "efficacy" appeal for the "motivating" component.

3) The "professional" appeal for the "motivating" component.

4) The "great departure" appeal for the "relating-descriptive" component.

5) The "small departure" appeal for the "relating-descriptive" component.

6) The example of a teacher using the advocated method, common to all four experimental conditions.

In preparing the material for the experiment, translations from the original English into Spanish were made by the "double" method to insure close adherence to the intended meaning. The English was translated into Spanish by one person, and then the Spanish was translated back into English by another person unfamiliar with the original English version. The original and new English versions were then compared, and any deviations in intended meaning reviewed, and the Spanish version adjusted accordingly. Patricia Comstock monitored this procedure.

The introductory paragraph common to all four experimental conditions:

Esto lo lleva a usted a conocer una forma especial de conducir una clase. Puede ser igualmente adaptada para los maestros que están usando la Televisión y para los que no la están usando.

Porque esta técnica envuelve el uso de preguntas hechas por el maestro, es llamado el Método Socrático, en honor del famoso antiguo filósofo Griego, Sócrates, quien fue conocido por el uso de preguntas para instruír a sus alumnos.

This introduces you to a special way of conducting a class. It is equally suitable for use both by teachers who are using television and teachers who are not using television.

Because this technique involves the use of questions by the teacher, it is called the Socratic Method, in honor of the very famous ancient Greek philosopher, Socrates, who was noted for his use of questions in instructing his students.

The "efficacy" appeal for the "motivating" component:

Puesto que como maestros, ustedes están interesados principalmente en que sus alumnos aprendan el máximo, el Método Socrático tendrá mucho interés para ustedes. Este ha sido desarrollado bajo experimentos científicos. Da una forma mediante la cual usted puede mejorar la calidad de su propia enseñanza. Es una vía por la que se puede llegar a ser más efectivo en la clase. Por lo tanto, es una forma mediante la cual usted personalmente puede ayudar a levantar el nivel de la educación pública en Colombia. Este es el significado mediante el cual su ensañanza puede ser más efectiva. Usándolo, usted enseñara mejor, sus alumnos aprenderán

más, mucho más. Por lo tanto, le ayudará a ser un maestro mejor. Es seguro, que no puede haber mejor recompensa para el maestro que la de que sus alumnos apredan más.

Since, as teachers, you are interested primarily in your pupils learning as much as possible, this Socratic Method will have great interest for you. It was developed by scientific experiment. It provides one way by which you can improve the quality of your own teaching. It is one way by which you can become more effective in the classroom. Thus, it is one way by which you, personally, can help raise the level of public education in Colombia. It is the means by which your teaching can become more effective. Using it, you will teach better. Your pupils will learn much, much more. Thus, it will help you to be a better teacher. Surely, there can be no greater reward for a teacher than for his or her pupils to learn more.

The "professional" appeal for the "motivating" component:

Puesto que como maestros, ustedes son miembros de una profesión que es una de las más importantes an todas las sociedades, el Método Socrático será de gran interés para usted. Este ha sido desarrollado bajo experimentos científicos. Como cualquier profesional, usted será capaz de examinar los argumentos ofrecidos en éste a su favor, estudie las pruebas---evidencias que muestran que los alumnos aprenden más cuando los usan---y decida si usted puede o no ponerlo en uso. Al hacer esto, usted estrará actuando como lo hacen los maestros profesionales en cual cualquier parte. Usted estará examinando las pruebas, y actuando de acuerdo con su mejor forma de juzgar. Esta es la forma en que todos

los profesionales trabajan, los médicos, abogados, maestros. Es seguro, que no puede haber mejor recompansa para un maestro que poder llevar a cabo su trabajo en una forma profesional.

Since, as teachers, you are members of a profession that is one of the most important in every society, this Socratic Method will have great interest for you. It was developed by scientific experiment. Like any professional, you will be able to examine the arguments offered in its behalf, study the evidence---figures which show that pupils learn more when it is used---and decide whether or not you think you could put it to use. In doing this, you will be acting as professional teachers do everywhere. You will be examining the evidence, and acting in accord with your own best judgement. This is the way all professionals work---doctors, lawyers, teachers. Surely, there can be no greater reward for a teacher than to perform his or her duties in a professional manner.

The "great departure" appeal for the "relating-descriptive" component:

Claro está, que algunos maestros en Colombia están actualmente usando este método. Ellos no lo llaman el Método Socrático, pero no obstante lo están usando. Sinembargo, en general este método es bastante nuevo para Colombia. Es un método muy moderno, que usa las ideas que han desarrollado recientemente acerca de la educación. El Método Socrático usa técnicas de preguntas y respuestas en una forma completamente diferente a la forma en que muchos maestros lo usan. Este lo usa en la forma correcta, la forma que es efectiva al máximo. Es lo contrario de lo que muchos maestros hacen actualmente en Colombia. No es solo una forma de preguntas y respuestas, sino la manera en que éstas deben ser usadas. Es un método nuevo, y muchos maestros tendrán que aprender a

usarlo. Para muchos maestros representará un gran cambio en la forma en que conducirán sus clases. Necesariamente no requerirá más trabajo o tiempo para preparar las lecciones, pero puede llegar a ocurrir cuando el maestro empieza a usarlo. Requerirá que el maestro haga las cosas en una forma muy diferente. Para muchos maestros, representará un cambio radical.

Of course, some teachers in Colombia---are already using this method. They do not call it the Socratic Method, but they are nevertheless using it. However, on the whole, this method is very new for Colombia. It is a very modern method, using recently developed ideas about education. The Socratic Method uses question-and-answer techniques in a way that is extremely different from the way in which many teachers use them. It uses them in the right way---the way that is maximally effective. It is the opposite of what many teachers in Colombia now do. It is not merely a matter of questions-and-answers, but the way in which they are used. This method is new, and many teachers will have to learn how to use it. Thus, for many teachers, it will involve a very big change in the way they conduct their classes. It will not necessarily require more work or time spent in preparing lessons, although this may occur when a teacher first tries to use it. It will require the teacher to do things in a markedly different way. For many teachers, it will involve a radical change.

<u>The "small departure" appeal for the "relating-descriptive" component</u>:

Claro está que algunos maestros en Colombia están actualmente usando este método. Ellos no lo llaman el Método Socrático, pero no obstante lo están usando. En efecto no es en general un método

totalmente nuevo en Colombia. Muchos maestros Colombianos usan frecuentemente técnicas de preguntas y respuestas que son muy eficaces en su enseñanza. Pero el Método Socrático usa las técnicas de preguntas y respuestas en una forma que es algo diferente a la ya usada por muchos maestros. No es solo una forma de preguntas y respuestas, sino la manera en que estas deben ser usadas. Por lo tanto este método es nuevo en algunos aspectos y muchos maestros tendrán que aprender a usarlo. Aún, para muchos maestros ésto no representará un gran cambio en la forma en que conducirán su clase. Necesariamente no requerirá más trabajo o tiempo del usual para preparar las lecciones, pero puede llegar a ocurrir cuando el maestro empieza a usarlo. No requirirá que el maestro haga las cosas en una forma muy diferente. Para muchos maestros, no representará un cambio radical.

Of course, some teachers in Colombia---are already using this method. They do not call it the Socratic Method, but they are nevertheless using it. In fact, on the whole, this method is not totally new for Colombia. Many Colombian teachers now frequently use question-and-answer techniques very effectively in their teaching. However, the Socratic Method does use question-and-answer techniques in a way that is somewhat different from the way in which many teachers use them. It is not merely a matter of questions-and-answers, but the way in which they are used. Therefore, this method is new in some respects, and many teachers will have to learn how to use it. Still, for many teachers it will involve no great change in the way they conduct their classes. It will not necessarily require more work or time spent in preparing lessons, although this may occur when a teacher first tries to use it.

It will not require the teacher to do things in a markedly different way. For many teachers, it will not involve a radical change.

The example of a teacher using the advocated method, common to all four experimental conditions:

Claro está, que el Método Socrático no es solo una forma de hacer preguntas a los alumnos. Este usa clases especiales de preguntas hechas a los alumnos en una forma especial. El folleto explica qué clase de preguntas y cómo deben ser hechas. Siembargo, para que usted pueda tener una idea de lo que este método requier del maestro, mostraremos aquí un ejemplo de un intercambio entre el maestro y los alumnos usando el Método Socrático. Ejemplo:

Maestro: Ahora, niños, vamos a continuar nuestro estudio de Ciencias Naturales. En las clases pasadas hablamos de algunos animales dométicos. De qué animales domésticos hablamos?

Alumno: Hablamos del perro, el gato, el caballo, la vaca.

Maestro: Por qué vimos que se llamaban domésticos?

Alumno: Porque se dejan amaestrar y se adaptan a la vida del hombre.

Maestro: Hoy vamos a estudiar éste que no es propiamente doméstico, pero sí de gran utilidad. (El maestro muestra una lámina de un pez). Qué animal es?

Alumno: Es un pez.

Maestro: Ustedes me pueden nombrar algunos peces?

Alumno: Sí, sardinas, capitán, bacalao, tiburón, bagre.

Maestro: Y éste, cómo se llama? Mírenlo bien. (Si no saben distinguirlo, les da el nombre).

Maestro: Ahora, vamos a comparar este animal con los otros que hemos estudiado; por ejemplo con el perro. Primero veamos en qué se parecen y después buscamos en qué se diferencian.

Maestro: Jose, dígame un paracido entre el perro y el pez.

Alumno: En que tienen cuerpo, ojos, boca, tienen huesos, se mueven, se alimentan, tienen columna vertebral, etc.

Maestro: Y por tener columna vertebral, cómo se llaman?

Alumno: Ambos se llaman vertebrados.

Maestro: Ahora veamos las diferencias. Dónde viven el perro y el pez?

Alumno: El perro en la tierra y el pez en el agua.

Maestro: Qué hace el perro cuando va de un lugar a otro?

Alumno: El perro camina.

Maestro: Y cuando el pez se mueve de un lugar a otro?

Alumno: El pez nada.

Maestro: El perro con qué camina?

Alumno: El perro camina con las cuatro extremidades llamadas patas.

Maestro: Y el pez con qué se mueve en el agua?

Alumno: El pez nada por medio de las aletas.

Maestro: Observen y cuenten cuántas aletas tiene el pez. Luis, cuántas aletas tiene el pez.

Alumno: Las cuenta y dice.

La clase continuá en esta forma.

Of course, the Socratic Method is not just a matter of asking pupils questions. It employs special kinds of questions, put to the pupils in a special way. The booklet explains what kinds of questions and how they should be asked. However, so that you will have an idea of what the method requires the teacher to do, here is an example of a typical exchange between a teacher using the Socratic Method and a pupil:

Teacher: Now children, we are going to continue our study of Natural Science. In past classes we talked about some domestic animals. What domestic animals have we talked about?

Student: We have talked about the dog, the cat, the horse and the cow.

Teacher: Why did we learn that they are called domestic animals?

Student: Because they can be tamed and adapted to the human way of life.

Teacher: Today we are going to study something which is not domesticated but is of great use. (The teacher shows a picture of a fish.) What animal is this?

Student: It is a fish.

Teacher: Can you give me the names of some fish?

Student: Yes, sardines, "capitan", codfish, shark, and "bagre".

Teacher: What do you call this? Take a good look at it. (If they don't know what it is give them the name.)

Teacher: Now we are going to compare this animal with the others which we have studied, for example, the dog. First we will see how they are alike and later we will look for the ways in which they are different.

Teacher: Joseph, tell me what are some of the things that a dog and a fish have in common.

Student: They both have a body, eyes, mouth, bones, they move, they eat, they have a spine, etc.

Teacher: And what are they called because they have a spine?

Student: They are both called vertebrates.

Teacher: Now, let us look at the differences. Where do the dog and fish live?

Student: The dog lives on the land, and the fish in the water.

Teacher: How does the dog get from one place to another?

Student: The dog walks.

Teacher: And how does the fish get from one place to another?

Student: The fish swims.

Teacher: How does the dog walk?

Student: The dog walks with the four extremities called paws.

Teacher: How does the fish move in the water?

Student: The fish swims using his fins.

Teacher: Look and count the number of fins that the fish has. Luis, how many fins does the fish have?

Student: He counts them and tells.

The class continues in this manner.

Appendix B: Questionnaire Items, in Spanish and English

The questionnaire items are presented in the following order:

1) Items on status, from the before questionnaire.

2) Items on persuasive effects, from the after questionnaire:

   a) Alternative choice forms.

   b) Seven-point scale forms.

3) Items on defense arousal effects, from the after questionnaire:

   a) Alternative choice forms.

   b) Seven-point scale forms.

Items on status, from the before questionnaire:

1) Considerando el servicio que dan a Colombia los maestros de escuelas publicas cómo estima usted la recompensa financiera (sueldo) que el maestro de escuela pública recibe?

_____ El sueldo está muy lejos de ser suficiente

_____ El sueldo es bastante bajo

_____ El sueldo es suficiente

_____ El sueldo es un poco alto

_____ El sueldo es muy alto

1) Considering the service Colombian public school teachers perform, how do you evaluate the financial reward (salary) they receive?

_____ Far below what it should be

_____ Somewhat below what it should be

_____ Just what it should be

_____ Somewhat above what it should be

_____ Much above what it should be

_____ . _____

2) Considerando el servicio dado por el maestro de escuela pública en Colombia, cómo estima usted el reconocimiento -- fuera del financiero -- que recibe el maestro de escuela pública?

_____ El reconocimiento está muy por debajo del que debiera ser

_____ El reconocimiento está solo ligeramente por debajo del que debiera ser

_____ El reconocimiento es justamente el que debiera ser

_____ El reconocimiento es ligeramente mejor al que debiera ser

_____ El reconocimiento es mucho más grande del que debiera ser

2) Considering the service Colombian public school teachers perform, how do you evaluate the recognition -- other than financial -- they receive?

_____ Far below what it should be

_____ Somewhat below what it should be

_____ Just what it should be

_____ Somewhat above what it should be

_____ Much above what it should be

_____ . _____

Items on persuasive effects, from the after questionnaire:

Alternative choice forms:

1) Si usted tuviera que tomar una decisión ahora mismo, sin una información adicional, que le llevara a emplear tiempo fuera de las horas de escuela, para aprender más acerca del Método Socrático, cuanto tiempo querría usted emplear?

_____ Nada

_____ Cerca de media hora

_____ Alrededor de una hora

_____ De una a dos horas

_____ De tres a cuatro horas

_____ De cinco a seis horas

_____ De siete a ocho horas

_____ De nueve a diez horas

_____ Más de diez horas

1) If it were necessary to choose now, without further information, how much time outside of school hours would you be willing to spend to learn more about the Socratic Method?

_____ None

_____ About half an hour

_____ Around an hour

_____ One or two hours

_____ Three or four hours

_____ Five or six hours

_____ Seven or eight hours

_____ Nine or ten hours

_____ More than ten hours

_____ . _____

2) Si usted tuviera que tomar una decisión ahora mismo, sin información adicional, que le llevara a utilizar el Método Socrático en su propia enseñanza, por cuántas semanas querría usted ensayarlo?

_____ Ningune

_____ Una semana

_____ Dos semanas

_____ Tres semanas

_____ De acuerdo a cinco semanas

_____ De seis a siete semanas

_____ De ocho a nueve semanas

_____ Diez o mas semanas

2) If it were necessary to choose now, without further information, how many weeks would you be willing to devote to trying out the Socratic Method in your teaching?

_____ None
_____ One week
_____ Two weeks
_____ Three weeks
_____ Four or five weeks
_____ Six or seven weeks
_____ Eight or nine weeks
_____ Ten or more weeks

_____ . _____

3) Después de haber leído este material, estaria usted interesado en conocer mas ampliamente el Método Socrático?

_____ No estaria interesado
_____ Muy interesado
_____ Un poco interesado
_____ Extremadamente interesado

3) After having read this material would you be interested in receiving more information about the Socratic Method?

_____ I would not be interested
_____ Very interested
_____ A little interested
_____ Extremely interested

_____ . _____

4) En su opinión, diría usted que el Método Socrático es más o es menos efective que los métodos que usan muchos maestros?

_____ Mucho menos efective
_____ Un poco menos efectivo
_____ Igualmente efective
_____ Un poco más efectivo
_____ Mucho más efectivo

4) In your opinion, would you say that the Socratic Method is more or less effective than the methods many teachers use?

_____ Much less effective
_____ A little less effective
_____ Equally effective
_____ A little more effective
_____ Much more effective

_____ . _____

Seven-point scale forms:

1) Si usted tuviera que tomar una decisión ahora mismo, sin una información adicional, que le llevara a emplear tiempo fuera de las horas escuela, para aprender más acerca del Método Socrático, cuánto querría usted emplear?

Poco tiempo ____ ____ ____ ____ ____ ____ ____ Una gran cantidad de tiempo

1) If it were necessary to chose now, without further information, how much time outside of school hours would you be willing to spend to learn more about the Socratic Method?

Little time ____ ____ ____ ____ ____ ____ ____ A great deal of time

____ . ____

2) Si usted tuviera que tomar una decisión ahora mismo, sin información adicional, que le llevara a utilizar el Método Socrático en su propia enseñanza, por cuántas semanas querría usted ensayarlo?

Alrededor de una semana ____ ____ ____ ____ ____ ____ ____ Casi todo un semestre

2) It if were necessary to choose now, without further information, how many weeks would you be willing to devote to trying out the Socratic Method in your teaching?

About a week ____ ____ ____ ____ ____ ____ ____ Nearly all a semester

____ . ____

3) Despues de haber leído este material, estaría usted interesado en conocer más ampliamente el Método Socrático?

No estaría interesado ____ ____ ____ ____ ____ ____ ____ Extremadamente interesado

3) After having read this material, would you be interested in receiving more information about the Socratic Method?

Not interested ____ ____ ____ ____ ____ ____ ____ Extremely interested

____ . ____

4) En su opinion diria usted que el Metodo Socratico es mas o es menos efectivo que los metodos que usal muchos maestros?

Mucho menos efectivo ____ ____ ____ ____ ____ ____ ____ Mucho mas efectivo

4) In your opinion, would you say that the Socratic Method is more or less effective than the methods many teachers use?

Much less effective ____ ____ ____ ____ ____ ____ ____ Much more effective

____ . ____

Items on Defense Arousal Effects, from the after questionnaire:

Alternative choice forms:

1) En su opinión, qué porcentaje de maestros de escuelas públicas en Colombia más o menos usan el Método Socrático actualmente -- aunque ellos no lo llaman así?

____ Cerca de un 10 por ciento
____ Cerca de un 20 por ciento
____ Cerca de un 30 por ciento
____ Cerca de un 40 por ciento
____ Cerca de un 50 por ciento
____ Cerca de un 60 por ciento
____ Cerca de un 70 por ciento
____ Cerca de un 80 por ciento
____ Cerca de un 90 por ciento
____ Casi un 100 por ciento

1) In your opinion, about what per cent of Colombian public school teachers are now using the Socratic Method -- although they do not call it that?

____ About 10 per cent
____ About 20 per cent
____ About 30 per cent
____ About 40 per cent
____ About 50 per cent
____ About 60 per cent
____ About 70 per cent
____ About 80 per cent
____ About 90 per cent
____ Nearly 100 per cent

____ . ____

2) Teniendo en cuenta la forma en que usted dirige su clase, que similitud diriz que tiene con la del Metodo Socratico?

_____ No es similar

_____ Un poco similar

_____ Extremadamente similar

2) How similar would you say the Socratic Method is to the way you conduct your class?

_____ Not similar

_____ Somewhat similar

_____ Extremely similar

_____ . _____

Seven-point scale forms:

1) En su opinión, qué porcentaje de maestros de escuelas públicas en Colombia más o menos usan el Método Socrático actualmente -- aunque ellos no lo llaman así? *

Menos de un 10 por ciento _____ _____ _____ _____ _____ _____ _____ Casi un 100 por ciento

1) In your opinion, about what per cent of Colombian public school teachers are now using the Socratic Method -- although they do not call it that?

Less than 10 per cent _____ _____ _____ _____ _____ _____ _____ Nearly 100 per cent

_____ . _____

2) Teniendo en cuenta la forma en que usted dirige su clase, qué similitud diría que tiene con la del Método Socrático?

No es similar _____ _____ _____ _____ _____ _____ _____ Extremadamente similar

2) How similar would you say the Socratic Method is to the way you conduct your class?

Not similar _____ _____ _____ _____ _____ _____ _____ Extremely similar

_____ . _____

* Due to printing error in questionnaire, this form of item did not produce analyzable data.

Reports In This Series

This series supplants all previous reports on the two years of research conducted on the Peace Corps Educational Television Project in Colombia. There are 12 volumes -- 10 research reports, each dealing with a different aspect of the project, plus An Introduction, concerned with the organization and conduct of the research, and a concluding Overview, containing a summary of the major findings and some general observations on the project.

The title of the series: The Peace Corps Educational Television Project in Colombia -- Two Years of Research.

The individual volumes:

An Introduction to Research Reports No. 1-10.

Report No. 1: The Project as a Whole -- Organization, Expansion, and Adaptation.

Report No. 2: The Project's First Semester -- Pupil Achievement, Teacher Attitudes, and the Work of the Utilization Volunteer.

Report No. 3: Improving the Effectiveness of the Utilization Volunteer and the Utilization of ETV by the Colombian Teacher.

Report No. 4: The Colombian Teacher and the Utilization Volunteer -- Making ETV Work in the Schools of a Developing Country.

Report No. 5: The Day-to-Day Job of the Utilization Volunteer -- Structure, Problems, and Solutions.

Report No. 6: Instructional Television for the In-Service Training of the Colombian Teacher.

Report No. 7: Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior.

Report No. 8: The Televised Curriculum and the Colombian Teacher.

Report No. 9: The Volunteers.

Report No. 10: Feedback to the Peace Corps on Project Progress -- Some Models and Suggestion.

An Overview of Research Reports No. 1-10.

BRIEF FACTS

The ETV Project: In 1963, the Peace Corps, with the financial support of the Agency for International Development (AID), agreed to help the Colombian government establish a nationwide educational television (ETV) system directed primarily at improving public education. The initial Peace Corps goal was to provide televised instruction for primary school pupils and their teachers. It was hoped that eventually the system could also provide instruction for adults in literacy, health, agriculture, and topics of general interest, and for students beyond the primary grades. The ultimate Peace Corps goal is to establish an ETV system operated independently by Colombia. The project was inaugurated in Colombia at the beginning of 1964. It has had two major concerns in achieving its initial goal: the production of televised courses, and the building of a receiving network of schools with television in which teachers would build their own teaching around the instructional "core" provided by the telecasts. During the project's first three years (1964-1966), the number of Volunteers assigned to the project by the Peace Corps who have worked closely with Colombians toward these goals has ranged from 66 to 88. Of these, about half a dozen have been concerned with the installation and maintenance of TV sets in schools, between slightly more than half to two-thirds working with teachers in schools on making ETV more effective, and the rest with the production of telecasts. During the first year, 10 courses were telecast for pupils, each consisting of two 15 minute telecasts a week, for a weekly total of 300 minutes, exclusive of repeated programs; during 1965 and 1966, 15 such courses were telecast, for a weekly total of 450 minutes exclusive of repeated programs. In addition, individual programs and short courses have been telecast for teachers. When telecasting began in February, 1964, the receiving network encompassed approximately 200 schools, 1,000 teachers, and 38,000 pupils; by the end of 1964, 500 schools, 4,025 teachers, and 153,000 pupils; by the end of 1965, 925 schools, 7,000 teachers, and 260,000 pupils; and by the end of this year, 1,250 schools, 8,500 teachers, and 350,000 pupils. Telecasting has been over the open network of the Instituto de Radio y Television, a semi-government agency which telecasts commercially in the evenings, and which also has provided studio facilities for ETV. To achieve its ultimate goal, the Peace Corps has been concerned with building a permanent, financially viable, and competent organization to assume the Volunteers' functions. At present, Peace Corps participation is planned to continue up to the middle of 1968. For more on the ETV Project itself, see Report No. 1: The Project as a Whole -- Organization, Expansion, and Adaptation, this series.

The Research: Because Colombia was the first country in which the Peace Corps undertook an educational television (ETV) project, it decided to provide for close, thorough, and continuing research, and late in 1963 contracted with Stanford University's Institute for Communication Research. The Institute maintained a staff in Colombia actively engaged in research for the first two years of the ETV Project, from January, 1964, through January, 1966. The titles of the final series of reports on its studies appear on the previous page. For more on the research as a whole, see An Introduction to Reports No. 1-10, this series.